

WHAT IS CLAIMED IS:

1. A negative temperature coefficient thermistor comprising:  
a thermistor element containing a transition metal oxide as a main  
component;  
a pair of spaced internal electrodes disposed in the thermistor element;  
5 and  
a pair of spaced external electrodes, each of which is electrically  
connected to different internal electrodes, disposed on the thermistor element,  
wherein the internal electrodes contain a metal component other than  
Cu as a main component and at least one of Cu and a Cu compound as a sub-  
10 component.
2. The negative temperature coefficient thermistor according to Claim 1,  
wherein the external electrodes contain a metal component other than Cu as a main  
component and at least one of Cu and a Cu compound as a sub-component.
3. The negative temperature coefficient thermistor according to Claim 2,  
wherein the external electrodes contain about 4 to 16% of said at least one of Cu and a  
Cu compound.
4. The negative temperature coefficient thermistor according to Claim 3,  
5 wherein the internal electrodes contain about 4 to 16% of said at least one of Cu and a  
Cu compound.
5. The negative temperature coefficient thermistor according to Claim 4,  
wherein the metal component other than Cu as a main component is at least one of Ag,  
Pd and Pt.
- 10 6. The negative temperature coefficient thermistor according to Claim 5,  
wherein the transition metal is at least one of Mn, Ni, Co and Fe.

7. The negative temperature coefficient thermistor according to Claim 6,  
wherein the thermistor element comprises  $\text{Mn}_3\text{O}_4$  and  $\text{NiO}$ .

8. The negative temperature coefficient thermistor according to Claim 1,  
15 wherein the internal electrodes contain about 4 to 16% of said at least one of Cu and a  
Cu compound.

9. The negative temperature coefficient thermistor according to Claim 8,  
wherein the metal component other than Cu as a main component is at least one of Ag,  
Pd and Pt.

10. The negative temperature coefficient thermistor according to Claim 9,  
20 wherein the transition metal is at least one of Mn, Ni, Co and Fe.

11. The negative temperature coefficient thermistor according to Claim 10,  
wherein the thermistor element comprises  $\text{Mn}_3\text{O}_4$  and  $\text{NiO}$ .

12. The negative temperature coefficient thermistor according to Claim 1,  
25 wherein the transition metal is at least one of Mn, Ni, Co and Fe.

13. A method for manufacturing a negative temperature coefficient  
thermistor, comprising:

providing green ceramic sheets containing a transition metal oxide as a  
main component, for forming a thermistor element;

30 providing at least two of said green ceramic sheets having thereon a  
conductive paste containing a metal component other than Cu as a main component  
and at least one of Cu and a Cu compound as a sub-component, for forming internal  
electrodes ;

stacking the green ceramic sheets and at least two paste-applied green  
35 ceramic sheets to form a green compact having opposed planes;

firing the green compact to obtain a fired compact; and

forming a pair of external electrodes on different portions of the fired compact ,

wherein the the firing comprises firing the green compact at a  
40 maximum temperature of about 1,000 to 1,350°C in an atmosphere containing about  
20 to 80% of oxygen and thereafter cooling the fired compact at a cooling rate of  
about 100 to 300°C/h .

14. The method for manufacturing a negative temperature coefficient thermistor according to Claim 13, wherein the external electrodes contain a metal component other than Cu as a main component and at least one of Cu and a Cu compound as a sub-component.

15. The method for manufacturing a negative temperature coefficient thermistor according to Claim 14, wherein the cooling comprises cooling the fired compact to about 800 to 1,100°C and holding the resulting compact at about 800 to 1,100°C for about 60 to 600 minutes before further cooling the resulting compact.

5 16. The method for manufacturing a negative temperature coefficient thermistor according to Claim 15, wherein the paste contains about 4 to 16% Cu or Cu compound.

17. The method for manufacturing a negative temperature coefficient thermistor according to Claim 16, wherein the metal component other than Cu as a  
10 main component is at least one of Ag, Pd and Pt.

18. The method for manufacturing a negative temperature coefficient thermistor according to Claim 17, wherein the external electrodes formed contain a metal component other than Cu as a main component and about 4 to 16% of at least one of Cu and a Cu compound as a sub-component.

15 19. The method for manufacturing a negative temperature coefficient thermistor according to Claim 13, wherein the cooling comprises cooling the fired

compact to about 800 to 1,100°C and holding the resulting compact at about 800 to 1,100°C for about 60 to 600 minutes before further cooling the resulting compact.

- 20            20.     The method for manufacturing a negative temperature coefficient thermistor according to Claim 13, wherein the paste contains about 4 to 16% Cu or Cu compound.